

RESTRICTION REQUIREMENT & ELECTION OF SPECIES

Applicant notes and thanks the Examiner for the favorable decision regarding the traversal of the restriction requirement. Regarding the acknowledged election and the withdrawal of Claims 9 through 15 from further consideration, Applicant notes the procedure in MPEP § 809.02(c) pursuant to 37 C.F.R. § 1.141, and thus awaits disposition of the above pending claims.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 1 through 6, 16, 18, 21, 23, 24, and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Caplan (United States Patent Number 3,050,087). These rejections are respectfully traversed.

CLAIMS 1 THROUGH 6

Caplan appears to disclose a radiator hose of unitary construction comprising two plain cylindrical ends and a major intermediate portion formed with helical corrugations. (Column 3, Lines 26-42). The helical corrugations are reinforced with a helical coil of wire having its turns embedded in the crests of the helical corrugations. *Id.* Caplan also discloses, that the helical coil of wire is continued into each of the hose ends. (Figures 2, 13, 16, 21, and 22 and Column 3, Lines 42-44). In one embodiment, Caplan further discloses a fabric sleeve covering the plain cylindrical ends of the hose. (Column 3, Lines 31-33 and Figures 2, 13 and 18). As such, Caplan does not anticipate the Applicant's invention as claimed.

location on outside and abut first section
In Claim 1, Applicant claims a duct assembly includes a support collar coupled to an outer perimeter of the second portion and abutting a first portion. The helical wire in Caplan is embedded in the helical corrugations of the radiator hose and travels well into the plain cylindrical ends. The fabric sleeve, as disclosed in Caplan, only covers and reinforces the plain cylindrical ends of the radiator hose but never comes in contact with

the intermediate corrugated portion of the hose. Applicant, therefore, respectfully submits Caplan as disclosed does not teach or suggest the invention as claimed.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 1 under 35 U.S.C. §102(b). It is noted that Claims 2 through 6 are dependent upon Claim 1 and as such should be in condition for allowance for the reasons set forth for Claim 1 above.

CLAIM 16

In Claim 16, Applicant claims a method comprising the step of bonding the reinforcement member to an exterior surface of the duct member in a helix such that pitch of the helix is equal to the reinforcement pitch. In contrast, Caplan discloses no manner as to spacing of the helical reinforcement wire, other than the helical coil of the wire having unstressed turns spaced a distance apart equal to the distance between the tube corrugations of the hose. (Column 1, Line 72 to Column 2, Line 2). As such, Applicant respectfully submits Caplan does not teach or suggest the step of bonding the reinforcement member to an exterior surface of the duct member in a helix such that pitch of the helix is equal to the reinforcement pitch.

Applicant notes the Examiner has stated, "[I]t is . . . considered inherent that upon making the article one would have to select a diameter and a pitch based on the diameter to form the article as required in claim 16" Applicant respectfully notes that in relying upon a theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows from the teachings of the applied prior art. *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in the original); MPEP § 2112. Applicant submits the Examiner has not established a basis in fact or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of Caplan.

Caplan discloses that the turns of the reinforcement wire are formed with radial offsets to maintain the major portion of the wire reinforcement at a relatively great depth during the curing process to space the major portion of the wire reinforcement away from both the inner and outer surfaces of the hose. (Column 10, Lines 53-68). Caplan also discloses seating the wire reinforcements in the mandrel used to form the hose such that the wire sits in the valleys of the corrugations. (Column 5, Lines 59-68). Caplan discloses various methods to place the wire reinforcement at various radial depths. Caplan, however, neither anticipates the invention as claimed nor do the allegedly inherent characteristics necessarily flow from the teachings of Caplan.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 16 under 35 U.S.C. §102(b).

CLAIMS 18, 20, 21, 23, AND 24

In Claim 18, Applicant claims a method comprising the step of bonding the flexible duct structure to an end of the rigid duct structure to produce a clampless flexible joint which permits an end of the flexible duct structure opposite the rigid duct structure to be moved relative to the rigid duct structure. In contrast, Caplan discloses a radiator hose constructed in one piece. (Column 1, Lines 1-16). In more detail, Caplan discloses forming multiple radiator hoses in one molding and curing process and then subsequently cutting the tubes transversely to produce the desired separate hose units. (Column 6, Line 74 through Column 7, Line 5 and Figure 7). As such, Caplan fails to anticipate the invention as claimed.

Applicant notes the Caplan in one embodiment does disclose bonding the helical wire reinforcement to the corrugated intermediate portion of the radiator hose. (Column 1, Lines 59-64). To that end, Caplan further discloses applying more uncured thermoset plastic material to the already cured radiator hose, such that the additional plastic material covers the reinforcing helical wire that had been slightly embedded in the crests

of the corrugated intermediate portion and the plain cylindrical end portions. (Column 8, Lines 16-43). The plastic material is added in thick strips (approximately four corrugations wide) in a spiral manner so that many layers are added to the intermediate corrugated portion and the plain hose ends to increase the overall thickness of the hose. Id. Nevertheless, Caplan fails disclose the invention as claimed.

Why?

In Claim 18, Applicant claims a method comprising the step of bonding the flexible duct structure to an end of the rigid duct structure to produce a clampless flexible joint which permits an end of the flexible duct structure opposite the rigid duct structure to be moved relative to the rigid duct structure. Caplan, at best, discloses a flexible one-piece radiator hose with a corrugated intermediate portion, with the optional step of bonding additional material to the entire hose; where multiple radiator hoses are made in a large batch and then transversely cut to produce single units. As such no portions of the individual hose are joined together to make one unit. Applicant, therefore, respectfully submits Caplan, as disclosed, fails to teach or suggest the invention as claimed.

Caplan more specific than claim language

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 18 under 35 U.S.C. §102(b). It is noted that Claims 20, 21, 23, and 24 are dependent upon Claim 18 and, as such, should be in condition for allowance for the reasons set forth for Claim 18 above.

they are connected to one another

CLAIM 25

Applicant claims a method comprising the steps of coupling the first rigid duct structure to a first end of the flexible duct structure and coupling the second rigid duct structure to a second end of the flexible duct structure such that the flexible duct structure permits the first and second rigid duct structures to be moved relative to one another. Caplan, at best, discloses a flexible one-piece radiator hose with a corrugated intermediate portion, with the optional step of bonding additional material to the entire

hose; where multiple radiator hoses are made in a large batch and then transversely cut to produce single units. As such no portions of the individual hose are joined together to make one unit. Applicant, therefore, respectfully submits Caplan as disclosed fails to teach or suggest the invention as claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 25 under 35 U.S.C. §102(b).

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 7, 8, and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Caplan (United States Patent Number 3,050,087). Claims 19 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Caplan (United States Patent Number 3,050,087) in view of Roberts (United States Patent Number 3,076,737). Claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Caplan (United States Patent Number 3,050,087) in view of Roberts (United States Patent Number 4,098,298). These rejections are respectfully traversed.

CLAIMS 7 AND 8

With reference to the discussion of Claim 1 above upon which Claims 7 and 8 depend, Applicant respectfully submits that Caplan, alone or in combination with ordinary skill in the art, fails to teach or suggest a duct assembly comprising a support collar coupled to an outer perimeter of the second portion and abutting the first portion, as claimed in Claims 7 and 8. In contrast, the helical wire in Caplan is embedded in the helical corrugations of the radiator hose and travels well into the plain cylindrical ends. The fabric sleeve, as disclosed in Caplan, only covers and reinforces the plain cylindrical ends of the radiator hose but never comes in contact with the intermediate corrugated portion of the hose. Applicant, therefore, respectfully submits Caplan, alone or in combination with ordinary skill in the art, fails to teach or suggest the invention as

claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of Claim 7 and 8 under 35 U.S.C. §103(a).

CLAIM 17

With reference to the discussion of Claim 16 above upon which Claim 17 depends, Applicant respectfully submits that Caplan, alone or in combination with ordinary skill in the art, fails to teach or suggest a method comprising the step of bonding the reinforcement member to an exterior surface of the duct member in a helix such that pitch of the helix is equal to the reinforcement pitch, as claimed in Claim 17. Caplan, in contrast, discloses no material manner as to spacing of the helical reinforcement wire, other than the helical coil of the wire having unstressed turns spaced a distance apart equal to the distance between the tube corrugations of the hose. Caplan does disclose that the turns of the reinforcement wire are formed with radial offsets to maintain the major portion of the wire reinforcement at a relatively great depth during the curing process to space the major portion of the wire reinforcement away from both the inner and outer surfaces of the hose. Applicant, therefore, respectfully submits Caplan, alone or in combination with ordinary skill in the art, fails to teach or suggest the invention as claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 17 under 35 U.S.C. §103(a).

CLAIM 19

With reference to the discussion of Claim 18 above upon which Claim 19 depends, Applicant respectfully submits that neither Caplan nor Roberts, alone or in combination, teach or suggest a method comprising the step of bonding the flexible duct structure to an end of the rigid duct structure to produce a clampless flexible joint which permits an end of the flexible duct structure opposite the rigid duct structure to be moved relative to the rigid duct structure, as claimed in Claim 19.

Both Caplan and Roberts disclose a one-piece radiator hose. Roberts, like Caplan, discloses adding additional uncured material to reinforce the hose structure. (Column 1, Lines 53-56). Roberts, like Caplan, also discloses making multiple units in one molding and curing process and then transversely cutting the members to produce the final product as desired. (Column 5, Line 45 to Column 6, Line 21 and Figure 15). As such, in either Caplan or Roberts, no portions of the individual hose are joined together to make one unit. Applicant, therefore, respectfully submits that neither Caplan nor Roberts, alone or in combination, teach or suggest the invention as claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 19 under 35 U.S.C. §103(a).

Claim 22

With reference to the discussion of Claim 18 above upon which Claim 22 depends, Applicant respectfully submits that neither Caplan nor Vohrer, alone or in combination, teach or suggest a method comprising the step of bonding the flexible duct structure to an end of the rigid duct structure to produce a clampless flexible joint which permits an end of the flexible duct structure opposite the rigid duct structure to be moved relative to the rigid duct structure, as claimed in Claim 22.

Vohrer discloses bonding an inner and outer hose together to encase a wire reinforcing helix to produce the ultimate product. (Column 1, Line 60 to Column 2, Line 23). Vohrer also discloses including a PVC ribbon intermingled with wire reinforcing helix to improve flexibility. (Column 3, Lines 4-13). At best, Vohrer discloses a flexible hose with smooth internal walls, but no individual portions of the hose are joined end-to-end to make one unit. Applicant, therefore, respectfully submits that neither Caplan nor Vohrer, alone or in combination, teach or suggest the invention as claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 22 under 35 U.S.C. §103(a).

CLAIM 26

With reference to the discussion of Claim 25 above upon which Claim 26 depends, Applicant respectfully submits that neither Caplan nor Roberts, alone or in combination, teach or suggest a method comprising the steps of coupling the first rigid duct structure to a first end of the flexible duct structure and coupling the second rigid duct structure to a second end of the flexible duct structure such that the flexible duct structure permits the first and second rigid duct structures to be moved relative to one another, as claimed in Claim 26.

Both Caplan and Roberts disclose a one-piece radiator hose. Roberts, like Caplan, discloses adding additional uncured material to reinforce the hose structure. (Column 1, Lines 53-56). Roberts, like Caplan, also discloses making multiple units in one molding and curing process and then transversely cutting the members to produce the final product as desired. (Column 5, Line 45 to Column 6, Line 21 and Figure 15). As such, in either Caplan or Roberts, no portions of the individual hose are joined together to make one unit. Applicant, therefore, respectfully submits that neither Caplan nor Roberts, alone or in combination, teach or suggest the invention as claimed. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 26 under 35 U.S.C. §103(a).

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed. It is therefore respectfully requested that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal

communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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